



## Robots go to war against Ebola

WORCESTER — In a bid to halt the spread of the Ebola virus, public health experts are turning to a new weapon — robots. Machines don't get sick, they're easy to disinfect, and they can carry out a variety of medical tasks, from carrying patients to disposing of medical waste.

So scientists and engineers met at Worcester Polytechnic Institute Friday to participate in a nationwide conference organized by the White House to explore using robots to fight Ebola. Participants said many existing robots can be reprogrammed for Ebola work in Africa, performing tasks that medical personnel and other public health aides now do at great risk of being infected themselves.

"The best form of personal protective equipment is not to send a human at all," said Jennifer Pagani, a principal mechanical engineer at robot maker QinetiQ North America in Waltham.

Her company's robots could be used in Africa to help dispose of contaminated medical waste, Pagani said; more than a decade ago QinetiQ's machines helped search for human remains in the rubble of the 9/11 attacks.

Hstar Technologies in Cambridge has built a prototype medical robot that can lift and carry patients in its arms. The robot was intended to assist nurses in military hospitals. But Hstar chief operating officer Yi-Je Lim said the Army has asked him to work on a version that could be deployed in Ebola clinics to move contaminated patients.

William Smart, associate professor of mechanical engineering at Oregon State University, presented a video of a robot that can remove sheets from a patient's bed and discard contaminated linen.

Though the robot can't yet put on fresh sheets, Smart said a machine could one day take over this potentially dangerous task.

Robots are already on the scene at Ebola sites in Africa, and the US Lumalier Corp. of Memphis deployed two sanitation robots to Liberian hospitals that automatically decontaminate rooms using powerful ultraviolet light that destroys the DNA of viruses.

A similar disinfecting robot, made by Xenex Disinfection Services of San Antonio, is being used in dozens of US hospitals, and will be deployed by the Air Force at facilities where US troops will be housed when they return from Ebola relief missions to Africa.

WPI hosts one of the nation's top robotics engineering programs, including research on disaster-relief robots. The Ebola conference was one of four held simultaneously and linked by teleconference. Other participants included the University of California Berkeley, Texas A&M University, and the White House Office of Science and Technology Policy, which sponsored the symposium.

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